

August 8, 1952

Dr. R. B. E. Murray
Department of Bacteriology
University of Western Ontario
London, Ontario

Dear Dr. Murray:

We saw Bertani about two weeks ago, when we heard his account of the possibly heterozygous *Shigella*. It seems a reasonable possibility that it is diploid, although it may possibly be diplogenic only for the proviral "locus" itself. We have now reasonably well substantiated cases of both occurrences in *E. coli*.

We are just now going over our slide material; I don't know whether or not I'll be able to pick out a suitable set before I leave for a vacation a few days hence. I do have some photographs which are quite typical, and enclose them for your benefit. If these will not suffice, let me know about 5 weeks from now, and I will try to do better. I hope such a delay will not embarrass you unduly.

Offhand, I should say that if you can't easily tell the cultures apart that this approach ought to be held in abeyance for more critical genetic evidence. There are a number of possibilities for verifying the diploid hypothesis, based on the use of recessive mutations.

From your cytological observations, would you conclude that it is likely that individual infected cells become normal lysogenic without intercalated cell divisions? Some of our observations suggest that infected cells usually give contaminated clones, out of which lysogenics arise only later. Such a picture would of course suggest that the efficiency with which sensitive cells can become converted to lysogenic is less than the *prima facie* evidence would suggest.

Yours sincerely,

Joshua Lederberg